

### **SUMMARY OF EXAMINER INTERVIEW**

Applicants thank Examiners Vu and Soni for being available for, and participating in, a telephonic interview that occurred on November 27, 2007 in which the Applicants' representatives discussed the differences between the claimed invention and U.S. Patent No. 5,182,744 to Askew et al. (hereinafter the "Askew reference") cited in support of the 35 U.S.C. § 103(a) rejection of independent claims 1, 11, and 14. During the discussion, the Applicants' representatives addressed two proposed amendments that clarified the how traffic flow was used to determine a priority order of the nodes in a network. Examiner Vu stated that these amendments may be helpful in distinguishing the Applicants' claimed invention from the Askew reference. In particular, it was indicated by Examiner Vu that the claim language of "geographic locations linked by the connection" will likely put the independent claims in condition to overcome the present § 103(a) obviousness rejection.

### **REMARKS**

The Office Action mailed October 15 2007 has been received and reviewed. Prior to the present communication, claims 1-5, 7-9, and 11-16 were pending in the subject application. All claims stand rejected. Claims 1, 11, and 14 have been amended herein and claims 17-19 have been added. Accordingly, claims 1-5, 7-9, and 11-19 remain pending. It is respectfully submitted that no new matter has been added by way of the present amendments. Claims 1-5, 7-9, and 11-16 stand rejected under U.S.C. § 103(a). Reconsideration of the subject application is respectfully requested in view of the above amendments and the following remarks.

#### **Support for Claim Amendments**

Each of independent claims 1, 11, and 14 have been amended herein. Support for the claim amendments may be found in the Specification, for example, at paragraphs [0043] and [0058]. New claims 17-19 have been added. These claims draw support from, at least, paragraphs [0043] and [0058] of the Specification. As such, it is respectfully submitted that no new matter has been added by way of the present amendments to the claims.

#### **Rejections based on 35 U.S.C. § 103(a)**

##### **A.) Applicable Authority**

Title 35 U.S.C. § 103(a) declares, a patent shall not issue when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” The Supreme Court in Graham v. John Deere counseled that an obviousness determination is made by identifying: the scope and

content of the prior art; the level of ordinary skill in the prior art; the differences between the claimed invention and prior art references; and secondary considerations.<sup>1</sup> To support a finding of obviousness, the initial burden is on the Office to apply the framework outlined in Graham and to provide some reason, suggestion, or motivation, found either in the prior art references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the prior art reference or to combine prior art reference teachings to produce the claimed invention.<sup>2</sup> Recently, the Supreme Court elaborated, at pages 13-14 of the *KSR* opinion, that “it will be necessary for [the Office] to look at interrelated teachings of multiple [prior art references]; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by [one of] ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the [patent application].”<sup>3</sup>

B.) Obviousness Rejections based on Cited Art

Claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Application No. 2002/0097671 to Doverspike et al. (hereinafter the “Doverspike reference”) in view of U.S. Patent No. 5,182,744 to Askew et al. (hereinafter the “Askew reference”). As the Doverspike reference and the Askew reference, whether taken alone or in combination, fail to teach or suggest all of the limitations of the rejected claims, Applicants respectfully traverse this rejection, as hereinafter set forth.

Independent claim 1, as amended hereinabove, recites, in part, “obtaining a priority order of the network node pairs, the priority order *derived from a predetermined priority*

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<sup>1</sup> *Graham v. John Deere Co.*, 383 U.S. 1 (1966).

<sup>2</sup> *See, Application of Bergel*, 292 F. 2d 955, 956-957 (1961).

*of a connection* supported by each of the network node pairs,” where “the predetermined priority is *based on which geographic locations are linked* by the connection” (emphasis added). In this way, “transcontinental east-west links are usually considered to be high priority network node pairs.”<sup>4</sup> The Office Action, at page 4, lines 10-14, states that the primary reference, Doverspike, is silent about how to use a priority order to identify optimal mapping of logical links within a network. The Askew reference is cited for disclosing a network node priority order, but does not describe determining a priority order of a connection between nodes according to *which geographic locations are linked* by that connection. By way of contrast, the Askew reference determines a priority of nodes by the type of traffic originated from the nodes.<sup>5</sup> In particular, the Askew reference assigns a high priority to the nodes originating government traffic, while the nodes originating conventional traffic are assigned a lower priority.<sup>6</sup> As such, Askew fails to cure the deficiencies of Doverspike. As a result, it is respectfully submitted that independent claim 1 is allowable. In addition, dependent claim 2 is allowable based in part on its dependency from claim 1.<sup>7</sup> Accordingly, the proposed combination does not meet the limitations of the claimed subject matter and as a matter of law the Examiner’s rejection cannot stand.

Claims 3, 4, and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Doverspike reference in view of the Askew reference, and further in view of U.S. Patent No. 6,577,601 to Wolpert (hereinafter the “Wolpert reference”). As the Doverspike reference, the Askew reference, and the Wolpert reference, whether taken alone or in combination, fail to teach or suggest all of the limitations of the rejected claims, Applicants respectfully traverse this rejection, as hereinafter set forth.

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<sup>3</sup> *KSR v. Teleflex*, 127 S.Ct. 1727 (2007).

<sup>4</sup> See *Specification* at pg. 7, ¶ [0058].

<sup>5</sup> See *Askew reference* at col. 9, ll. 45-54.

Claims 3-5 depend from claim 1, as amended hereinabove. As previously mentioned, the primary reference, Doverspike, in combination with the Askew reference fail to describe the following features of claim 1: (a) obtaining a priority order derived from a predetermined priority of a connection supported by each of the network node pairs, and (b) basing the predetermined priority on which geographic locations are linked by the connection. The Wolpert reference does not consider these features, but instead, focuses on measuring network performance.<sup>8</sup> Further, the Office Action does not assert that the Wolpert reference teaches these claimed elements above, rather, the Examiner merely asserts that the Wolpert reference discloses using a maximum time delay and obtaining a relative time delay. As such, Wolpert fails to cure the deficiencies of the combination of Doverspike and Askew. As a result, it is respectfully submitted that dependent claims 3-5 are allowable based in part on their dependency from claim 1.<sup>9</sup>

Claims 7 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Doverspike reference in view of the Askew reference, and further in view of a publication entitled “Survivable Routing of Logical Topologies in WDM Networks” by Modiano et al. (hereinafter the “Modiano reference”). As the Doverspike reference, the Askew reference, and the Modiano reference, whether taken alone or in combination, fail to teach or suggest all of the limitations of the rejected claims, Applicants respectfully traverse this rejection, as hereinafter set forth.

Claims 7 and 9 depend from claim 1, as amended hereinabove. As previously mentioned, the primary reference, Doverspike, in combination with the Askew reference fail to

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<sup>6</sup> *Id.*

<sup>7</sup> See 37 C.F.R. § 1.75(c) (2006).

<sup>8</sup> See *Wolpert reference* at col. 3, ll. 15-63.

describe the following features of claim 1: (a) obtaining a priority order derived from a predetermined priority of a connection supported by each of the network node pairs, and (b) basing the predetermined priority on which geographic locations are linked by the connection. The Modiano reference does not consider these features, but instead, focuses on developing algorithms for routing traffic on survivable paths in the event of a failure.<sup>10</sup> Further, the Office Action does not assert that the Modiano reference teaches these claimed elements above, rather, the Examiner merely asserts that the Modiano reference discloses performing a correlation on NSFNET. As such, Modiano fails to cure the deficiencies of the combination of Doverspike and Askew. As a result, it is respectfully submitted that dependent claims 7 and 9 are allowable based in part on their dependency from claim 1.<sup>11</sup>

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the Doverspike reference in view of the Askew reference, and further in view of a publication entitled “Design of Fault-Tolerant Logical Topologies in Wavelength-Routed Optical IP Networks” by Nucci et al. (hereinafter the “Nucci reference”). As the Doverspike reference, the Askew reference, and the Nucci reference, whether taken alone or in combination, fail to teach or suggest all of the limitations of the rejected claim, Applicants respectfully traverse this rejection, as hereinafter set forth.

Claim 8 depends from claim 1, as amended hereinabove. As previously mentioned, the primary reference, Doverspike, in combination with the Askew reference fail to describe the following features of claim 1: (a) obtaining a priority order derived from a predetermined priority of a connection supported by each of the network node pairs, and (b)

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<sup>9</sup>See 37 C.F.R. § 1.75(c) (2006).

<sup>10</sup>See *Modiano reference* at pg. 1, Abstract.

<sup>11</sup>See 37 C.F.R. § 1.75(c) (2006).

basing the predetermined priority on which geographic locations are linked by the connection. The Nucci reference does not consider these features, but instead, focuses on fault-tolerant logical topologies in wavelength-routed optical networks.<sup>12</sup> Further, the Office Action does not assert that the Nucci reference teaches these claimed elements above, rather, the Examiner merely asserts that the Nucci reference discloses that a correlation is performed using Tabu search methodology. As such, Nucci fails to cure the deficiencies of the combination of Doverspike and Askew. As a result, it is respectfully submitted that dependent claim 8 is allowable based in part on its dependency from claim 1.<sup>13</sup>

Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over a publication entitled “Design of a Survivable WMD Photonic Network” to Armitage et al. (hereinafter the “Armitage reference”) in view the Askew reference. As the Armitage reference and the Askew reference, whether taken alone or in combination, fail to teach or suggest all of the limitations of the rejected claim, Applicants respectfully traverse this rejection, as hereinafter set forth.

Independent claim 11, as amended hereinabove, recites, in part, “obtaining a priority order of the network nodes derived from a predetermined priority of a connection supported by each of the network nodes, wherein *the predetermined priority is based on which geographic locations are linked by the connection*” (emphasis added). The Office Action, at page 12, lines 11-14, states that the primary reference, Armitage, is silent about how to use a priority order to identify optimal mapping of logical links within a network. The Askew reference is cited for disclosing a network node priority order, but does not describe determining a priority order of a connection between nodes according to *which geographic locations are*

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<sup>12</sup> See Nucci reference, passim.

*linked* by that connection, as discussed above with reference to claim 1. As such, Askew fails to cure the deficiencies of Armitage. As a result, it is respectfully submitted that independent claim 11 is allowable.

Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Armitage reference in view of the Askew reference, and further in view of the Doverspike reference. As the Doverspike reference, the Askew reference, and the Armitage reference, whether taken alone or in combination, fail to teach or suggest all of the limitations of the rejected claims, Applicants respectfully traverse this rejection, as hereinafter set forth.

Claims 12 and 13 depend from claim 11, as amended hereinabove. As previously mentioned, the primary reference, Armitage, in combination with the Askew reference fail to describe the following features of claim 1: (a) obtaining a priority order derived from a predetermined priority of a connection supported by each of the network node pairs, and (b) basing the predetermined priority on which geographic locations are linked by the connection. As discussed above, with reference to claim 1, the Examiner states that the Doverspike reference fails to teach these claimed elements. As such, Doverspike fails to cure the deficiencies of the combination of Armitage and Askew. As a result, it is respectfully submitted that dependent claims 12 and 13 are allowable based in part on their dependency from claim 11.<sup>14</sup>

Claims 14 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Doverspike in view of Askew. As the Doverspike reference and the Askew reference, whether taken alone or in combination, fail to teach or suggest all of the limitations of the rejected claims, Applicants respectfully traverse this rejection, as hereinafter set forth.

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<sup>13</sup>See 37 C.F.R. § 1.75(c) (2006).

<sup>14</sup>See 37 C.F.R. § 1.75(c) (2006).



Independent claim 14, as amended hereinabove, recites, in part, “obtaining a priority order of the network node pairs, the priority order *derived from a predetermined priority of a connection* supported by each of the network node pairs,” where “the predetermined priority is *based on which geographic locations are linked by the connection*” (emphasis added). The Office Action, at page 16, lines 1-3, states that the primary reference, Doverspike, is silent about how to use a priority order to identify optimal mapping of logical links within a network. The Askew reference is cited for disclosing a network node priority order, but does not describe determining a priority order of a connection between nodes according to *which geographic locations are linked* by that connection, as discussed above with reference to claim 1. As a result, it is respectfully submitted that independent claim 14 is allowable. In addition, dependent claim 15 is allowable based in part on its dependency from claim 14.<sup>15</sup>

Claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the Doverspike reference in view of the Askew reference, and further in view of the to Wolpert reference. As the Doverspike reference, the Askew reference, and the Wolpert reference, whether taken alone or in combination, fail to teach or suggest all of the limitations of the rejected claim, Applicants respectfully traverse this rejection, as hereinafter set forth.

Claim 16 depends from claim 14, as amended hereinabove. As previously mentioned, the primary reference, Doverspike, in combination with the Askew reference fail to describe the following features of claim 1: (a) obtaining a priority order derived from a predetermined priority of a connection supported by each of the network node pairs, and (b) basing the predetermined priority on which geographic locations are linked by the connection. The Wolpert reference does not consider these features, but instead, focuses on measuring

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<sup>15</sup>See 37 C.F.R. § 1.75(c) (2006).

network performance, as discussed above.<sup>16</sup> As such, Wolpert fails to cure the deficiencies of the combination of Doverspike and Askew. As a result, it is respectfully submitted that dependent claim 16 is allowable based in part on its dependency from claim 14.<sup>17</sup>

New claims 17, 18, and 19 directly depend from independent claims 1, 11, and 14, respectively, and for at least that reason are in condition for allowance. Further, new claims 17, 18, and 19 recite, in part, deriving the priority order of network nodes from a *volume of flow of network traffic* carried between the network nodes (emphasis added), or a variation thereof. As discussed above, both the Doverspike reference and the Armitage reference are silent about obtaining network node priority order. The Askew reference does not describe deriving a “priority order” according to a volume of flow of network traffic. Instead, the Askew reference determines a priority of nodes by the type of traffic that is originated from the nodes.<sup>18</sup> Further, the Askew reference describes an order for transferring traffic “based on the priority of the traffic and its volume . . . .”<sup>19</sup> As indicated, the volume of traffic is not utilized in determining a priority scheme, but as a separate factor when transferring traffic. Moreover, there is no indication of whether this volume is consistently applied, or whether the volume relates to the network nodes for which the priority is being determined (or to the network nodes on which the traffic is presently being transferred). Further still, the Askew reference bases the order on both the priority *and* the volume, but not on the volume independently. Accordingly, the Askew reference does not expressly describe, or inherently consider deriving the *priority order* of

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<sup>16</sup> See *Wolpert reference* at col. 3, ll. 15-63.

<sup>17</sup> See 37 C.F.R. § 1.75(c) (2006).

<sup>18</sup> See *Askew reference* at col. 9, ll. 45-54.

network nodes from a *volume of flow of network traffic* carried between the *network nodes*. As a result, it is respectfully submitted that claims 17-19 are allowable for at least these reasons.

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<sup>19</sup> *Id.* at col. 10, ll. 10-13.

**CONCLUSION**

For at least the reasons stated above, claims 1-5, 7-9, and 11-19 are now in condition for allowance. Applicants respectfully request withdrawal of the pending rejections and allowance of the claims. If any issues remain that would prevent issuance of this application, the Examiner is urged to contact the undersigned – 816-474-6550 or btabor@shb.com (such communication via email is herein expressly granted) – to resolve the same. It is believed that no fee is due, however, the Commissioner is hereby authorized to charge any amount required to Deposit Account No. 21-0765.

Respectfully submitted,

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